UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,211	01/31/2002	Mikito Iwamasa	219053US2SRD	6031

22850 7590 09/09/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
MITCHELL, JASON D	

ART UNIT	PAPER NUMBER
2193	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/059,211	IWAMASA, MIKITO	
	Examiner	Art Unit	
	Jason Mitchell	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This application claims priority to Japanese patent application 2001-024491 filed on 1/31/01. For this claim to be perfected an English translation must be submitted.

2. Claims 1-18 are pending in this case.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Drawings

4. **The drawings are objected to because ' System Specification Recording Section' 107 of Fig. 11 is incorrectly labeled 'System Specification ecording Section'.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be

canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. **The disclosure is objected to because of the following informalities: The disclosure on pg. 8, line 16-pg. 9, line 13 incorrectly refers to items 22, 23 and 24 of Fig. 1 as 'a specification'.** Fig. 1 indicates that these items are, respectively, a 'programmable element', a 'resistor' and a 'comparator'. Examiner could not reconcile this difference.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite the contents of 'the execution processing content' including a 'program during execution and a type of execution control to the program during execution'. It is unclear exactly what limitations this phrase is intended to recite. For the sake of the current examination, the 'program during execution' will be assumed to refer to the 'current program' as disclosed on pg. 14, lines 15-20 of Applicant's specification. Appropriate correction is required.

3. Claims 6 and 14 recite the limitations "the first rule" and "the second rule". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 5-10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,211,872 to Matsutsuka et al. (Matsutsuka).

Regarding Claims 1 and 8: Matsutsuka discloses a system design support method comprising: generating a first system specification described in a state transition table form (col. 2, lines 42-46 'State transition definition table 101') using a state transition

unit which includes information relating to an execution control over the system (col. 2, lines 42-46 'an action name for each event name'); generating a second system specification described in an execution control table form (col. 2, lines 50-53 'the state transition table') which includes an execution processing content in the system as a set of state transition units, based on the first system (col. 2, lines 50-53 'generated from state transition table generation class 102'); and converting the second system specification described in an execution control table form to a third system specification having an executable form (col. 5, lines 19-21 'Event process class 207'). Matsutsuka does not explicitly disclose the third system specification being described in a system description language. However as noted in Applicant's specification such languages were know in the art (pg. 22, lines 5-8 'SpecC is available') and would have been an obvious choice for the representation of Matsutsuka's third system specification ('Event process class 207') because one of ordinary skill would have been motivated to make use of SpecC's ability to describe parallel processing (Matsutsuka col. 4, lines 26-27 'makes possible parallel processing').

Regarding Claims 2 and 9: The rejections of claims 1 and 8 are incorporated, respectively; further Matsutsuka discloses each of the state transition units includes at least a current state taken by the system, an event serving as a cause of the state transition, and a next state taken by the system upon occurrence of a state transition (Fig. 9, State Name, Event and Transition Destination).

Regarding Claims 3 and 10: The rejections of claims 2 and 8 are incorporated, respectively; further Matsutsuka discloses the state transition unit further includes a

condition that allows a state to make a transition, and an action to be executed before a transition to a next state (Fig. 9 Event and Execute Routine).

Regarding Claims 5 and 12: The rejections of claims 1 and 8 are incorporated, respectively; further Matsutsuka discloses the execution processing content includes at least a transition that has occurred (Fig. 9, Event), a program during execution (Fig. 9, Execute Routine), a type of execution control to the program during execution (Fig. 9, Execute Routine i.e. Initialization, Execute, Cancel), and a program to be executed next (Fig. 9 Transition Destination), inherently disclosing a type of execution control to the program to be executed next (Fig. 9, Execute Routine i.e. Initialization, Execute, Cancel).

Regarding Claims 6 and 13: The rejections of claims 1 and 8 are incorporated, respectively; further Matsutsuka discloses the converting comprises expanding the execution processing content to a specification described in the system description language (col. 5, lines 19-21 'Event process class 207') in accordance with the first rule (col. 5, lines 19-21 'Event process class 207 is partially automatically generated'); and integrating the expanded specification in accordance with the second rule (col. 6, lines 20-22 'converts a network event ... to a suitable event process class 207 method').

Regarding Claims 7 and 14: The rejections of claims 6 and 8 are incorporated, respectively; further while Matsutsuka does not explicitly disclose the use of a specification description language based on C, as indicated in Applicant's specification (pg. 22, lines 5-8 'SpecC is available') such languages were know in the art and would have been an obvious choice of system specification languages.

6. **Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,211,872 to Matsutsuka et al. (Matsutsuka) in view of US 2002/0104071 to Charisius et al. (Charisius).**

Regarding Claims 4 and 11: The rejections of claims 1 and 8 are incorporated, respectively; further Matsutsuka discloses the information relating to the execution control includes a program of which an execution control is triggered in association with the state transition (Fig. 9, Execute Routine); and notification of an event which notifies that processing is ended (col. 15 lines 8-11 executes completion processing ... indicating completion'). Further, while Matsutsuka does not explicitly disclose the types of execution control claimed, Matsutsuka does disclose a type of execution control (col. 15, lines 18-20 'issues ... a "exitMethod (ExitData)" method for directing the execution of process completion').

Charisius teaches types of execution control over a program (par. [0232] 'a group of commands that control the execution'), the type of an execution control includes at least a start of the system (par. [0232] "Run"), a forced termination of processing based on an interrupt caused by occurrence of an event (par. [0232] "Stop"), a pause of processing based on an interrupt caused by occurrence of an event (par. [0232] "Pause"), and a resume from the pause of processing based on an interrupt (par. [0232] "Continue") in the analogous art of software development (par. [0232] 'software development tool'), for the purpose of controlling execution of a program (par. [0232] 'a group of commands that control the execution').

It would have been obvious to a person of ordinary skill in the art at the time of the invention to replace Matsutsuka's execution control (col. 15, lines 18-20) with Charisius's execution control methods (par. [0232]) because one of ordinary skill in the art would have been motivated to provide more complete control over the program's execution (Charisius par. [0232] 'control the execution of the ... client program')

7. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,211,872 to Matsutsuka et al. (Matsutsuka) in view of "OMG Unified Modeling Language Specification" (UML).

Regarding Claims 15 and 17: Matsutsuka discloses a design support system comprising: generating a first system specification described in a state transition table form using a state transition unit (col. 2, lines 42-46 'State transition definition table 101') which includes information relating to an execution control over the system; generating a second system specification described in an execution control table form which includes an execution processing content in the system as a set of state transition units (col. 2, lines 50-53 'the state transition table'), based on the first system; and converting the second system specification described in an execution control table form to a third system specification having an executable form (col. 5, lines 19-21 'Event process class 207').

While Matsutsuka does not explicitly disclose creating a system specification model comprised of a specification of a computation and a specification of a communication at a system level; dividing and distributing partial structures of the system specification

model into partial elements of a predetermined architecture to create an architecture model; combining communication protocols between the partial elements of the architecture based on the specification of the communication to create a communication model; associating the system specification model, the architecture model, and the communication model with each other, and recording the associated model as a system specification; generating a hardware specification from the system specification; generating a software specification from the system specification;

However, as taught by UML (pg. 1-2, section 1.2.2) such specification systems were know in the art at the time of the invention and it would have been obvious to one of skill in the art to use a modeling system similar to UML as an initial design tool in Matsutsuka's system (UML pg. 1-3 section 1.3.1).

Further, Matsutsuka does not explicitly disclose the third system specification being described in a system description language. However as noted in Applicant's specification such languages were know in the art (pg. 22, lines 5-8 'SpecC is available') and would have been an obvious choice for the representation of Matsutsuka's third system specification ('Event process class 207') because one of ordinary skill would have been motivated to make use of SpecC's ability to describe parallel processing (Matsutsuka col. 4, lines 26-27 'makes possible parallel processing').

Regarding Claims 16 and 18: The rejections of claims 15 and 17 are incorporated, respectively; further Matsutsuka discloses forming a system specification model component in order to reuse the component in creating the system specification model,

architecture model, and the communication model (col. 3, lines 45-51 'this configuration renders unnecessary server-side program changes ... facilitates the reuse of physical screens').

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 6,567,075 to Baker et al; US 6,421,251 to Lin; US 5,604,863 to Allen et al; US 5,537,580 to Giome et al.; US 5,463,543 to Wagner; and US 4,918,594 to Unizuka.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Mitchell
9/1/05

ANIL KHATRI
PRIMARY EXAMINER